

REMARKS

Claims 16-17 and 37-63 are now pending in this application, upon entry of the amendment submitted above. Claims 16-17 are allowed. Favorable reconsideration of newly-added Claims 37-63 is respectfully requested.

Applicants would like to thank Examiner Steadman for the helpful and courteous discussion held with their representative on June 17, 2003. During that meeting, the amendments submitted above were discussed. The arguments set forth in the outstanding Official Action also discussed, and the Examiner clarified that Claim 27 should have been included in the enablement rejection under 35 U.S.C. §112, first paragraph. The following remarks embody the discussion with the Examiner.

The present invention relates to an isolated bacterium belonging to the genus *Escherichia*, wherein the bacterium is modified to increase an activity of a protein which makes the bacterium harboring the protein L-threonine-resistant in comparison to a wild-type *Escherichia* bacterium by increasing expression of a DNA coding for the protein, and where the protein comprises the amino acid sequence of SEQ ID NO: 4. See Claim 37.

The rejection under 35 U.S.C. §112, first paragraph, for an alleged lack of written description, is respectfully traversed.

The amended claims specify the following for increasing the activity of RhtC: expression of the DNA, increasing a copy number of the DNA, or substitution of a promoter.

In order to show that increasing the copy number of the DNA is well-known by one skilled in the art as a means for increasing an activity of a protein, Applicants enclose the following references, D1 (WO 92/10561), D2 (EP 0127328A2), and D3 (U.S. 5,595,889). In order to show that substitution of the promoter is well-known by one skilled in the art has a means for increasing an activity of a protein, Applicants enclose references D4 (Abstract of JP 03-147791), D5 (Abstract of JP 03-147792), and D6 (WO98/04715).

D6 demonstrates that substituting a promoter of the threonine operon on a chromosome with a non-native promoter results in increasing the expression of the threonine operon, whereby the amount of threonine produced is increased. As examples of the non-native promoter, lac promoter, trp promoter, P_L promoter, P_R promoter, lpp promoter, and tac promoter are exemplified (see page 11, lines 5-17). In the Examples described in D6, the promoter is actually used for the substitution.

D6 relates to the field of breeding an amino acid producing bacterium, which is the same as the present invention. According to the teaching in D6, it is apparent that substituting a promoter of a target gene in order to increase the expression of the target gene is known in the art. Therefore, Applicants are clearly in possession of the embodiment of the present invention drawn to bacterium with modified promoters, based on the teachings of the present specification and the state-of-the-art as evidenced by the references submitted herewith.

In view of the teachings of the present specification and the state-of-the-art as evidenced by the references submitted herewith, Applicants were in possession of the claimed invention at the time the present application was filed. Accordingly, the written description requirement of 35 U.S.C. 112, first paragraph, is satisfied. Withdrawal of this ground of rejection is respectfully requested.

The rejection under 35 U.S.C. §112, first paragraph, for an alleged lack of enablement is respectfully traversed.

The present application provides a detailed description for preparing and using the claimed bacterium. For example, see pages 8-36 of the present specification, which provides general procedures for preparing and using the claimed bacterium as well as specific examples at pages 24-36. In addition, references D1-D6 demonstrate that increasing the copy

number of the DNA and substitution of the promoter are well-known by one skilled in the art as a means for increasing an activity of a protein, as discussed above.

In view of the detailed teaching set forth in the present specification and the knowledge in the art as evidenced by publications D1-D6, one can make and use the claimed bacterium by routine experimentation. Since the amount of experimentation is not undue, the claims are enabled. Accordingly, withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully Submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER, & NEUSTADT, P.C.



22850

Norman F. Oblon
Attorney of Record
Registration No. 24,618

James J. Kelly, Ph.D.
Registration No. 41,504

Tel.: (703) 413-3000
Fax: (703) 413-2220
NFO:JK\la
E:\ATTY\UK\00101070-AM.DOC